



Cyclists on the Cape Cod Rail Trail, near Long Pond, Harwich. (See Appendix G for photo information.)

SECTION 9. CAPE COD RAIL TRAIL

9.1. INTRODUCTION

The Cape Cod Rail Trail (CCRT) is one of DCR's most popular parks. Each year it attracts an estimated 400,000 visitors (NPS and CCC 2010) who bicycle, walk, run, skate, ride horses, and cross-country ski. This linear park extends approximately 21.9 miles, from Route 134 in Dennis to LeCount Hollow Road in Wellfleet, atop a former railroad bed that once carried trains travelling between Boston and Provincetown. (Figures 9.1 and 9.2) A paved multi-use path extends down the center of the park. The CCRT passes by wetlands, cranberry bogs, salt marshes, pond shores, power line corridors, forests, residential neighborhoods, motels and rental cottages, cemeteries, retail districts, and industrial areas. Visitors travelling the length of the park are introduced to the many faces of Cape Cod.

The park's land is owned by three governmental entities. The town of Orleans owns all of the railroad bed within its municipal boundaries. Similarly, the National Park Service owns the railroad bed within the Cape Cod National Seashore (CCNS). The majority of the rail trail is owned by the DCR, which

is responsible for managing the entire park. In addition, the DCR also owns 10,600 feet of railroad bed beyond the CCRT's current northern terminus in Wellfleet, and several parcels, ranging in size from 0.3 to 3.9 acres, along the CCRT in Dennis, Harwich, and Brewster.

This section considers DCR-owned portions of the CCRT, and the DCR's management responsibilities for the entire trail. Information is presented for the DCR-owned portions of the CCRT and, when available, also for the town of Orleans and CCNS owned portions of the CCRT. The 3.7 mile rail trail extension into Dennis and Yarmouth is not included in this section. Readers interested in this extension, which is not yet under the ownership or control of the DCR, are directed to Vanasse Hangen Brustlin, Inc. and Camp Dresser & McKee, Inc. (2007). Also not included in this section is the Old Colony Rail Trail, which is often misidentified as an extension of the Cape Cod Rail Trail.

The CCRT's physical, political, and regulatory attributes are summarized in Table 9.1.1.

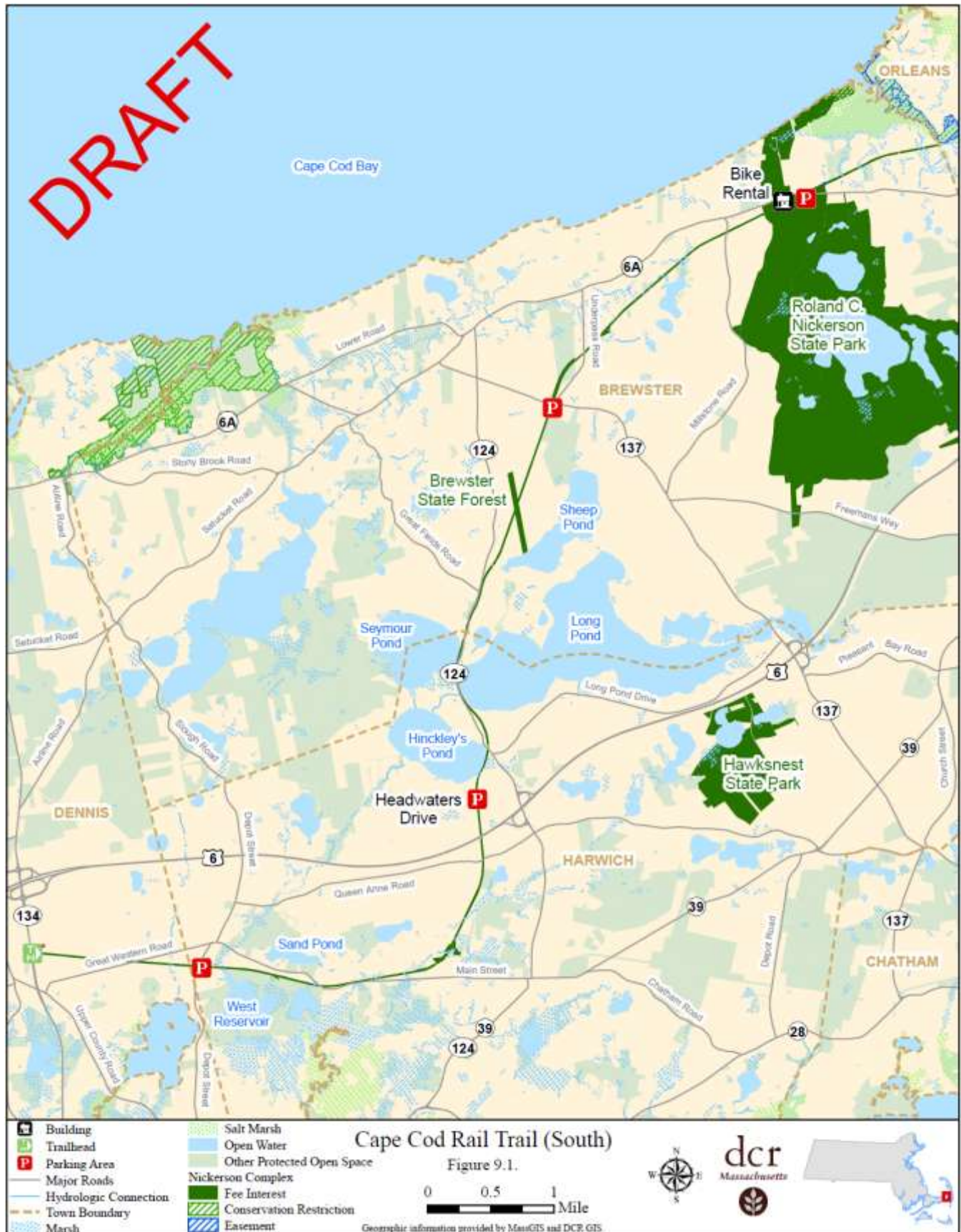




Table 9.1.1. Physical, political, and regulatory settings of the Cape Cod Rail Trail.

Setting	Name or Metric
Location:	Dennis, Harwich, Brewster, Orleans, Eastham, Wellfleet
Area (acres)^{a,b}:	
DCR-owned	201.63
Town of Orleans	18.53
Perimeter (miles)^{a,b}:	
DCR-owned	40.35
Town of Orleans	4.01
Landscape Designation(s)^c:	Parkland
Legislative Districts:	
House	1st Barnstable 4th Barnstable
Senate	Cape and Islands
Regulatory Designations:	Priority Habitat Inner Cape Cod Bay ACEC Outstanding Resource Waters – Inner Cape Cod Bay ACEC Old Kings Highway Regional Historic District

- a. Calculated using a Geographic Information System (GIS).
b. Existing GIS data do not differentiate the rail bed from adjacent portions of the CCNS. Because of this, metrics are unavailable for the CCNS portion of the rail trail.
c. For a summary of DCR's landscape designations, see <http://www.mass.gov/eea/docs/dcr/ld/ld-factsheet-final.pdf>.

Associated Properties. The CCRT serves as a greenway that passes through, and connects, two other DCR properties: Nickerson state park (Section 7) and Brewster State Forest (Section 14). It is managed by the staff of Nickerson state park.

9.2. NATURAL RESOURCES

The CCRT is a linear park that was originally a railroad corridor. Its narrowness, approximately 80-feet wide at most locations, means that the park shares resources with abutting properties. Historic and current land uses on these properties influenced, and continue to influence, the park's natural resources.

Physical Features

Due to its past use as a railroad bed, the topography of the CCRT typically ranges from level to a gentle incline. The trail begins in Dennis at an elevation of

approximately 40 feet, drops to approximately 10 feet near Namskaket Creek in Brewster and Orleans, and rises to approximately 60 feet at its terminus in Wellfleet. The sharpest changes in topography are man-made, and associated with the bridges over Route 6 in Harwich and Orleans, and the Route 6 underpass in Eastham.

Water Resources

Although the CCRT has few of its own water resources (Table 9.2.1), such resources are common on abutting properties.

Table 9.2.1. Water resources of the Cape Cod Rail Trail.

Water Resource	Name or Metric
Watershed:	Cape Cod
Aquifer:	
Lens	Cape Cod SSA Monomoy Nauset Chequesset
Rivers and Streams (miles)^{a,b}	
DCR-owned	0.34
Town of Orleans	0.10
Vernal Pools	
Certified (#)	0
Potential (#)	0
Wetlands (acres)^{a,b}	
DCR-owned	3.95
Town of Orleans	1.83
Lakes and Ponds (acres)^{a, b, c}	
DCR-owned	0.50
Town of Orleans	0.00

- a. Calculated using a Geographic Information System (GIS).
b. Existing GIS data do not differentiate the rail bed from adjacent portions of the CCNS. Because of this, metrics are unavailable for the CCNS portion of the rail trail.
c. Includes overlap with adjacent water bodies.

Limited portions of the park are susceptible to flooding and storm surge. (Table 9.2.2) However, flooding in even limited segments may result in trail closure, disrupting park use and rerouting recreationists onto public roads.

One hundred year flood zones associated with rivers, streams, ponds, and salt marshes often extend onto the CCRT. (Table 9.2.2) The greatest threat occurs where the trail passes near salt marshes. For example, over 3,000 linear feet of paved multi-use path are within the 100-year flood zone in Orleans.

Portions of the CCRT within 500-year flood zone tend to be adjacent to large, freshwater ponds.

Table 9.2.2. Potential impacts of flooding, hurricane inundation, and sea-level rise on the Cape Cod Rail Trail.

Type of Impact	DCR-owned Acres (%) ^a	Town of Orleans Acres (%) ^a
Flooding:		
100-year Storm	8.76 (4.34)	4.70 (25.34)
500-year Storm ^b	9.95 (4.93)	4.83 (26.02)
Hurricane Inundation:		
Category 1 Storm	0.73 (0.36)	0.24 (1.29)
Category 2 Storm ^c	2.47 (1.22)	0.67 (3.61)
Category 3 Storm ^c	7.30 (3.62)	3.04 (16.41)
Category 4 Storm ^c	10.15 (5.03)	4.59 (24.77)
Sea Level Rise	0.09 (0.04)	0.06 (0.31)

- a. Existing GIS data do not differentiate the CCRT from adjacent portions of the CCNS. Because of this, metrics are unavailable for the CCNS portion of the rail trail.
- b. Cumulative value; includes 100-year storm impacts.
- c. Cumulative value; includes impacts of all lower category storms.

Those sections of the trail most likely inundated by hurricane surge are generally the same as those affected by a 100-year flood. This includes Blackfish Creek in Wellfleet, Boat Meadow River and Rock Harbor Creek in Orleans, and Namskaket Creek in Brewster and Orleans; all of which are predicted to be affected by a Category 1 or greater storm. Approximately 8,800 linear feet of rail trail are predicted to be inundated by Category 4 storms at these locations. Category 4 storms are also predicted to inundate portions of the CCRT near Herring, Great, and Depot ponds in Eastham, and Swan Pond River, Herring River, and Coy's Brook in Harwich.

Projected sea level rise (Church et al. 2013) will minimally impact the rail trail. (Table 9.2.2)

In 2002, a 15-inch culvert beneath the CCRT was replaced with twin 60-inch culverts in order to improve the flow of salt water into Namskaket Marsh south of the rail trail. Concerns that increased tidal flow might flood adjacent private properties and infrastructure resulted in partial restrictions being placed on the culverts; they were removed in 2014. Preliminary hydrological data suggest that adjacent infrastructure is safe under normal tide conditions but storm impacts are unknown (Ingelfinger 2014).

Rare Species

State-listed Species. Fourteen state-listed species are known. (Table 9.2.4) Many are associated with adjacent properties, others may pass along or across the path, and still others may incorporate portions of the CCRT into their habitats. As of this writing, the spatterdock darner has been proposed for delisting under MESA.

Table 9.2.3. State-listed species of the Cape Cod Rail Trail, as identified by the NHESP.

Species ^{a, b}	Type ^c	MESA ^d
Bushy rockrose	P	SC
Common's panic grass	P	SC
Diamond-backed terrapin	R	T
Eastern box turtle	R	SC
Eastern spadefoot	A	T
Eastern whip-poor-will	B	SC
Gerhard's underwing	I	SC
Mitchell's sedge	P	T
Pink sallow moth	I	SC
Pondshore knotweed	P	SC
Salt reedgrass	P	T
Sandplain euchlaena	I	SC
Spatterdock darner	I	SC
Terete arrowhead	P	SC

- a. Presented alphabetically, by common name.
- b. Fact sheets are available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html>.
- c. Types of state-listed species include: A = Amphibian; B = Bird; I = Insect; P = Plant; and R = Reptile.
- d. Status of species listed under the Massachusetts Endangered Species Act (MESA): E = Endangered, SC = Special Concern; and T = Threatened.

Priority Habitat

Slightly less than two-thirds of the DCR-owned portion of the CCRT (63.31%) has been designated Priority Habitat under MESA. In contrast, 36.76% of the CCRT in Orleans is in Priority Habitat. The portion of the trail within the CCNS is entirely within Priority Habitat.

Vegetation

There have been no comprehensive surveys.

Invasive Species

There have been no surveys; two invasive plants have been incidentally observed. (Table 9.2.4) Given the CCRT's history, and the common practice of abutters dumping yard waste along its margins, additional invasives are likely to be present.

Table 9.2.4. Known invasive and likely invasive plants of the Cape Cod Rail Trail.

Species ^a	Status ^b
Black locust	I
Oriental bittersweet	I

a. Presented alphabetically, by common name.

b. Plants are classified as being either Invasive (I) or Likely Invasive (L) according to MIPAG (2005).

Natural Communities

The historic railroad bed and adjacent shoulders were highly modified for railroad use. As a result, most of the CCRT is dominated by culturally derived mixtures of vegetation, rather than natural communities. Exceptions include undeveloped parcels abutting the trail; these parcels have not been surveyed for natural communities.

The CCRT's narrowness means that the park intersects natural communities from adjacent properties. Community types through which the CCRT passes are identified in Table 9.2.5. A variety of cultural landscapes, such as cranberry bogs, power line corridors, and residential yards also abut the trail.

Table 9.2.5. Known natural communities of the Cape Cod Rail Trail.

Community Type ^a	System ^b	State Rank ^c	Source ^d
Coastal Plain Pondshore	P	S3	1
Deep Emergent Marsh	P	S4	2
Red Maple Swamp	P	S5	2
Salt Marsh	E	S3	2
Shrub Swamp	P	S5	2

a. Classified according to Swain and Kearsley (2011).

b. E = Estuarine, P = Palustrine, T = Terrestrial.

c. The NHESP ranks communities from most rare (S1) to the most common (S5).

Community Type ^a	System ^b	State Rank ^c	Source ^d
d. Information contained in this table was obtained from the following sources:			
1. Harper (2013).			
2. DEP Wetlands (1:12,000) data layer.			



The CCRT passes by several active cranberry bogs, such as Jenkins Cranberry Bog, Harwich. (See Appendix G for photo information.)

Forests

There is no information on this park's forests, nor is there any forest monitoring.

Wildlife

The trail's wildlife has not been surveyed. It is anticipated that those species present will be representative of the larger forest, wetland, and developed areas through which it passes.

9.3. CULTURAL RESOURCES

This section describes the known and potential cultural resource areas, including pre-Contact and post-Contact archaeological resources, and historic buildings, structures, and landscapes. An overview of significant events in the history of the CCRT is presented in Table 9.3.1. Its cultural resources are identified in Table 9.3.2.

Table 9.3.1. Significant events in the history of the Cape Cod Rail Trail.

Year(s)	Events
Late 1970s	Railroad rights-of-way purchased in Dennis, Harwich, Brewster, and Eastham; construction begins.
1992	Town of Orleans grants an easement to the DEM for recreational purposes over seven former railroad parcels.
1994	Legislature authorizes funds for numerous upgrades to the rail trail, including a bike path linking Chatham and Harwich to the CCRT, linking Dennis to the CCRT, a bridge in Orleans, and the extension of the rail trail to Wellfleet. (Chapter 273 of the Acts of 1994)
1995	Trail extended from Eastham to its current terminus at Lecount Hollow Road in Wellfleet.
2005-2007	Major renovations to rail trail conducted in two phases: Phase 1(2005) – Dennis to Nickerson state park; and Phase 2 (2007) – Nickerson state park to South Wellfleet.
2008	Three million dollars authorized for rail trail extensions westward in Dennis and Yarmouth (Chapter 303 of the Acts of 2008).
2015	Construction begins on 3.7 mile extension through Dennis into Yarmouth.

Table 9.3.2. Cultural resources of the Cape Cod Rail Trail.

Location and Resource ^a	Type ^b	Date ^c	Condition ^d	Integrity ^e	In Use ^f	Utilities ^g	MHC # ^h	Guidance ⁱ
Park-wide								
Granite posts	OB	Late 1800s	-	M	-	-	-	1
Harwich								
Pleasant Lake Residential District	MHCA	1850-1930	-	-	-	-	HRW.G	-
Brewster								
Old King's Highway Regional Historic District	NRHD	17 th -19 th c.	-	-	-	-	BRE.G	-
South Brewster	MHCA	1750-1885	-	-	-	-	BRE.D	-
East Brewster	MHCA	1795-1900	-	-	-	-	BRE.A	-
Orleans								
Orleans Town Center	MHCA	1880-1981	-	-	-	-	ORL.C	-
Old King's Highway Regional Historic District	NRHD	17 th -19 th c.	-	-	-	-	ORL.E	-
Wellfleet								
Blackfish Creek Residential District	MHCA	1700-1900	-	-	-	-	WLF.O	-

a. By town, from Dennis trailhead to Wellfleet trailhead.

b. Resource types include: MHCA – Massachusetts Historical Commission Area; NRHD = National Register Historic District; OB = Object.

c. Date of construction provided, when known.

d. Preliminary condition assessment using the building system and equipment condition codes as used in the Massachusetts Capital Asset management Information System (CAMIS). The following codes are used: 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.

e. Integrity is a relative assessment of the condition of a resource's retention of its historic character-defining features; H = High; L = Low; M = Medium; and U = Unknown.

f. Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.

g. The following codes are used to identify utilities associated with buildings: E = Electric, H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.

h. Massachusetts Historical Commission inventory number.

i. The following guidance is offered for the ongoing maintenance of these cultural resources:

1. Refer to Historic Landscapes-Built Features BMP (DCR n.d.g).

Archaeological Resources

Many pre-Contact sites are recorded in close proximity to the CCRT. Over 50 systematic archaeological surveys have been conducted over the last four decades near or adjacent to the trail. The CCRT in its entirety passes through ecosystems that provided favorable resource bases that attracted Native Americans for thousands of years and numerous clusters of sites are located close to the trail corridor. Despite its proximity to known and potentially existing pre-contact sites, the existing 10-foot wide paved multi-use path, coincides with the Old Colony Railroad rail road bed, which by the 1870s linked Boston with Provincetown. Future work confined to existing built and hardened features would pose no threat to archaeological resources. However, because of its proximity to highly sensitive pre-contact sites including multiple burials associated with the Contact Period, any intrusive work proposed adjacent to or near the trail needs to be assessed for archaeological sensitivity, especially in undeveloped areas.

Historic Resources

Prior to the mid-nineteenth century, geography had isolated Cape Cod from the rest of Massachusetts, with Old King's Highway (Rt. 6a) as the only major ground transportation route connecting the peninsula's towns to the mainland. By 1848, the Old Colony Railroad Company railroad had connected Boston to Sandwich. By 1873, the route was extended the length of the Cape to Provincetown, shortening the journey from Boston to five hours. The railroad was a significant factor in the growth of the Cape as a vacation destination, drawing visitors from Boston, New York and beyond. Improvements to Route 6 and the construction of the canal bridges in the late 1930s brought the end of passenger service. The creation of the CCRT in the 1970s introduced a new mode of transportation to Cape Cod, and in the process preserved the memory of the path's railroad heritage.

Historic Landscapes

Rail Trail Right of Way. While much has changed along the route of the Rail Trail since its use as a railroad corridor, the maintained linear continuity of the route continues to possess integrity as a unique type of historic landscape. The trail passes by a number of protected and preserved historical and

cultural sites and landscapes, however, most of these areas are outside of DCR's management boundary. The path, however, allows visitors to experience a good portion of a route traveled by visitors to the Cape for decades. The integrity of the open corridor and low grade slope preserves the memory of the railway travel experience, and the recalls the transportation backbone of the area's late nineteenth and twentieth century development.

Buildings

There are no DCR-owned historic buildings located along the Rail Trail.

Structures

There are no DCR-owned historic structures located along the Rail Trail.

Objects

All historic objects are associated with the Rail Trail Right of Way historic landscape.

9.4. RECREATION RESOURCES

The CCRT is a linear park with a paved multi-use path running from end to end. Recreation activities primarily involve use of this path, with fewer activities taking place off path. The following recreation activities are known to take place in the park.

- Bicycling, road
- Dog walking
- Geocaching (25 caches as of March 2015)
- Horseback riding
- In-line skating
- Nature study (e.g., bird watching)
- Picnicking
- Running/Jogging
- Skiing, cross-country
- Walking

The DCR solicits concessionaires along the CCRT to enhance visitors' experiences. Currently there is only one concession, a bike rental shop (i.e., Barb's Bike Rental) located in the Route 6A parking lot in Brewster. Bikes are available to rent on an hourly, daily, three-day, or weekly basis between July 4th and Labor Day on days when there is no rain, and on

weekends after Labor Day. Patrons are not provided any information about the park or its regulations.

A second concession, a food cart, was formerly located in the Route 137 parking lot. The previous concessionaire chose to not renew their concession permit in 2014; DCR anticipates soliciting a new concessionaire for this location.

In addition to recreation activities that take place in the park, the CCRT also serves as a connector to other recreation resources in the mid and lower Cape, such as Nickerson state park, Old Colony Rail Trail, beaches, and municipal and non-profit conservation lands.

9.5. INFRASTRUCTURE

Property Boundary

The CCRT has parallel linear or curvilinear boundaries with adjacent properties. These boundaries with private properties are not obviously marked; several encroachments were observed in the fall of 2013.

The DCR owns approximately 17.8 linear miles of the CCRT, several small parcels of land adjacent to the park, and 2.0 miles of undeveloped railroad bed. The town of Orleans owns approximately 1.8 miles of the park, and Cape Cod National Seashore 2.3 miles.

The planned 3.7 mile westward extension of the current CCRT will not be built on DCR lands. DCR will acquire ownership of portions of the extension following completion of construction.

Buildings and Structures

There are only three buildings in the park. Two are associated with composting toilets, and the third is used as a bike rental concession. (Table 9.5.1) A comfort station is located in the Nickerson day use lot along adjacent to the CCRT; it is covered in Section 8.



Bike rental concession along the CCRT, Route 6A, Brewster. (See Appendix G for photo information.)

Table 9.5.1. Non-historic buildings and structures of the Cape Cod Rail Trail.

Location and Infrastructure ^a	Date ^c	Condition ^b	In Use ^d	Utilities ^e
Brewster				
Bike rental building	1982	3	S	T
Eastham				
Composting toilet building	-	3	Y	E ^f
Wellfleet				
Composting toilet building	-	3	Y	E ^f

a. By town, from Dennis trailhead to Wellfleet trailhead.

b. Preliminary condition assessment using the building system and equipment condition codes as used in the Massachusetts Capital Asset Management Information System (CAMIS). The following codes are used: 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.

c. Date of construction provided, when known.

d. Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.

e. The following codes are used to identify utilities associated with buildings: E = Electric; H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.

f. Self-contained composting toilet building with solar-powered vent fan; no other electricity.

Roads

The CCRT has no internal park roads. One municipal road (Gulls Way, Brewster) runs approximately 400 feet through the DCR parking lot at Route 137.

The CCRT passes over, under, and across a variety of public roads. There are 34 road crossings, 29 of which are on DCR-owned portions of the trail. Several road crossings have been identified as having inadequate designs, and design treatments inconsistent with current standards (NPS and CCC 2010). The CCRT also passes over a number of private drives.

Two bridges carry trail users over Route 6, and three underpasses carry them beneath high volume roads. One of these underpasses, at Route 6 in Eastham, requires riders to cycle downhill before making a turn into a tunnel. At least 17 accidents have occurred in this underpass since 2010 (Myers 2014). Stop lines, stop signs, and message boards were installed at both entrances in the fall of 2014 in an effort to increase safety by decreasing the speed of cyclists entering the tunnel. In addition the inside of the underpass was painted white and lighting was added to improve visibility.



Safety issues at the Eastham underpass are currently being evaluated; efforts to increase cyclist awareness to improve safety have been implemented. (See Appendix G for photo information.)

In Orleans, where the CCRT is discontinuous, recreationists must travel approximately 2,000 feet over Salty Ridge and West roads between CCRT segments.

Parking

Parking is extremely limited, with fewer than 200 spaces on the DCR-owned portion of the CCRT. (Table 9.5.2) Designated accessible parking is provided at paved lots in Dennis, Brewster, and Wellfleet. Only the Route 6A lot in Brewster is a pay for parking lot. The number and the width of spaces in these lots meet current ADA and Massachusetts Architectural Access Board requirements; however, access aisles between these spaces do not meet requirements for van accessible spaces (i.e., 64 inches wide versus the required 96 inches).

Table 9.5.2. Number of public parking spaces, by location and type, at DCR-owned portions of the Cape Cod Rail Trail.^a

Location	HP	Other	Total
Dennis trailhead ^b	4	62	66
Depot Street, Harwich ^c	0	8	8
Headwaters Drive, Harwich ^c	0	22	22
Route 137 lot, Brewster ^{b, d}	2	24	26
Route 6A lot, Brewster ^{c, e} (Bike rental lot)	0	20	20
Samoset Road, Eastham ^c	0	4	4
Nauset Road, Eastham ^c	0	9	9
Wellfleet trailhead ^b	2	30	32
Total	8	179	187

- a. Does not include municipal, MassDOT, or National Park Service parking spaces.
- b. Number of spaces is based on pavement markings.
- c. Number of spaces is based on the number of potential 9-foot-wide spaces.
- d. One additional space, posted "No Parking: Reserved for Vendor," is also present in the lot but is not included in this table.
- e. As of 2014 there is a \$5/day parking fee for this lot.

Overflow parking at the Wellfleet trailhead makes it difficult to access marked spaces. The Wellfleet lot is long and narrow, with perpendicular parking on its western side and the travel lane along its eastern side. When the marked spaces are full, visitors parallel park along the eastern side of the lot. This makes movement into and out of available marked spaces difficult, especially designated accessible spaces.



Illegal parking (right) at the Wellfleet trailhead lot makes access to marked spaces difficult. (See Appendix G for photo information.)

Additional parking is available in municipal lots in Orleans at Depot Square and at 251 Rock Harbor Road, and also at the Cape Cod National Seashore's Salt Pond Visitor Center and Marconi Area. However, parking spaces at the Seashore are unavailable to rail trail users during periods of peak use, as there is currently "inadequate capacity to handle the volume of traffic visiting the Seashore with many visitors unable to access the park safely or conveniently" (NPS and CCC 2010). Pay parking is available at nearby Nickerson State Park, in the day use lot near the park's entrance.

Trails

The park's primary trail is a 10-foot-wide paved multi-use path extends through the approximate center of the CCRT along its entire length. It is 17.20 miles long on the DCR-own portion of the rail trail, 1.75 miles long in the town of Orleans, and approximately 2.30 miles long in the CCNS. The width of this path is a DCR design standard intended to provide a recreation travel corridor while maintaining visitors' park experience.

In late 2014, \$210,000 in repairs and improvements were made to the CCRT. Among the repairs were repaving 43 damaged segments of multi-use path, totaling 4,380 linear feet and restriping road crossings. Both repairs were made to enhance the safety of multi-use path users.

Additional natural surface trails. Connecting the CCRT to adjacent properties, are also present. The extent and condition of these trails is presented in Table 9.5.3.

Table 9.5.3. Condition and length of official trails at the Cape Cod Rail Trail.

Trail Condition	DCR-owned (Miles)	Town of Orleans (Miles)
Good	1.61	0.03
Fair	0.01	0.0
Poor	0.12	0.0
Total	1.74	0.03

- Calculated using a Geographic Information System (GIS).
- Existing GIS data do not differentiate the rail bed from adjacent portions of the CCNS. Because of this, metrics are unavailable for the CCNS portion of the rail trail.

Adjacent to the multi-use path is a grassy shoulder intended for use as a bridle trail; it is not regularly maintained. As a result, equestrians and their horses need to travel along the paved multi-use trail for portions of the CCRT.



The CCRT's paved multi-use path provides a hardened surface for runners and cyclists, while the grassy shoulders function as bridle trails. (See Appendix G for photo information.)

The CCRT's trailheads have a unique and stylized design. A red brick walkway connects the parking lot to the path, providing both a visual and tactile transition from lot to path. Multiple seven-foot-long rectangular granite blocks are located to each side of the path, where they both direct riders into the path and serve as benches. A carved granite stone, bearing the inscription "Cape Cod Rail Trail" is located on the right side of each path entrance. Bicycle racks are located near the entrance. Each trailhead also has a kiosk that differs structurally from the DCR standard (see Kiosks and Signs, below).



Standard CCRT trailhead features include a brick apron, stone benches, and engraved stones. (See Appendix G for photo information.)

Kiosks and Signs

There are two types of kiosks; those associated with paved parking lots and those at other locations along the CCRT. Kiosks at paved parking lots are constructed of logs and have wood shingle roofs, creating a rustic appearance. This design is employed at both trailheads and the Route 137 lot in Brewster. Elsewhere on the CCRT kiosks are constructed of standard dimensional lumber and have fiberglass roofing shingles. These are located at the Harwich bike rotary, Nickerson state park trailhead, and the Route 6 overpass in Orleans adjacent to the court house. The Harwich Conservation Trust has a kiosk, similar in appearance to DCR standards, at the Depot Street parking lot in Harwich.



Log-framed kiosk at Wellfleet trailhead; this rustic design is used at paved parking lots along the CCRT. (See Appendix G for photo information.)

In late 2014, 20 “destination and distance” signs were installed along the CCRT.

Iron Ranger

There are no iron rangers.

Memorials and Markers

Mile markers occur along the entire length of the CCRT. These are granite posts with the distance from the trail’s origin (i.e., the Dennis trailhead) and municipality carved into them. As indicated above, carved stones bearing the park’s name are located at both the Dennis and Wellfleet trailheads.

9.6. INTERPRETATION

There is no interpretive programming. The following interpretive waysides are located along the CCRT:

- *Welcome*; Dennis trailhead.
- *River Herring*; Herring River, Harwich.
- *Namskaket Creek*; Brewster-Orleans town line.
- *100 Miles from Boston*; Eastham.
- *Welcome*; Wellfleet trailhead.

These waysides are attached to granite blocks similar in appearance to those used for benches at trailheads.



River Herring interpretive panel along the CCRT, at Herring River, Harwich. The panel’s design and stone mount are characteristic of interpretive materials along the CCRT. (See Appendix G for photo information.)

9.7. MANAGEMENT RESOURCES

Staffing

DCR Personnel

The CCRT is managed by MassParks employees from Nickerson on an as available basis. (See Table 7.7.1) There are no employees whose responsibilities are limited to the CCRT.

Partnerships and Volunteers

There are no formal partnerships or volunteer programs. However, the municipalities of Harwich, Eastham, and Wellfleet informally help maintain the CCRT. The Garden Club of Brewster designed and maintains ornamental plantings at the Route 137 lot.

Public Safety

Emergency response services are provided by municipal fire and police department in the towns in which the rail trail is located. National Park Service rangers provide emergency response within the Cape Cod National Seashore.

Funding

Conservation Trust Fund

There are no trust funds.

Retained Revenue

The concession fee associated with the bike rental concession in Brewster contributes toward DCR's overall retained revenues. In the past, additional revenue was generated from a food concession along the trail; it no longer exists.

Other Revenues

This park does not generate other revenues.

9.8. MANAGEMENT PRACTICES

Management of DCR properties is guided by a variety of regulations, policies, BMPs (e.g., Table 9.3.2), legal agreements, and institutional knowledge. This section describes those practices unique to the management of the Cape Cod Rail Trail.

There is no overarching management agreement for the rail trail; nor are there agreements with individual municipalities regarding its management.

Legal agreements relevant to the CCRT are listed in Table 9.8.1.

Table 9.8.1. Key legal agreements for the Cape Cod Rail Trail.

Party and Subject of Agreement	Type ^a	Expiration Date ^b
Barnstable County Commissioners Easement for access path to CCRT through county courthouse property in Orleans.	E	None
Town of Orleans Easement to allow for construction of bike path retaining wall on Town property.	E	None
National Park Service Operation of the CCRT within the Cape Cod National Seashore.	U	2025
Rob Slavin dba Cobies Restaurant Erection of advertising sign and split rail fence.	U	2011
Harwich Conservation Trust Create and maintain access to CCRT at Hacker sanctuary.	U	2011

- a. Agreement types include: A=Memorandum of Agreement; E=Easement; L=Lease; and U=Memorandum of Understanding.
b. Year that agreement expires. Permanent agreements are indicated by an expiration date of "None."

Key management and guidance documents are identified in Table 9.8.2.

Table 9.8.2. Key management and guidance documents for the Cape Cod Rail Trail.

Author and Document	Year
Massachusetts Department of Environmental Management. Roland C. Nickerson State Park. GOALS plan.	1993
Gannett Fleming, Inc. Environmental Audit Report: Cape Cod Rail Trail, Dennis to Wellfleet, Massachusetts.	2000

Non-DCR guidance documents related to the CCRT include the following:

- Bicycle Feasibility Study (NPS and CCC 2010)
- Regional Transportation Plan (CCC 2013)
- The towns of Dennis and Yarmouth Cape Cod Rail Trail extension (Vanasse Hangen Brustlin, Inc. and Camp Dresser & McKee, Inc. 2007)

Annual Maintenance

Ongoing management practices typically follow a regular schedule. Common activities, and the desired frequency with which they occur, are identified in Table 9.8.3. Performance of these activities is dependent on staff availability. Because maintenance of the CCRT is performed by the staff of Nickerson on an as available basis, deviations from this schedule occur.

Table 9.8.3. Annual cycle of management activities for the Cape Cod Rail Trail.

Activity	Spring ^a	Summer ^a	Fall ^a	Winter ^a
Cleaning - Walkways	AN	AN	AN	N/A
Litter removal - Recreation areas	AN	AN	AN	AN
Litter removal - Trails	AN	AN	AN	AN
Maintenance - Picnic sites, fences, etc.	AN	AN	AN	N/A
Mowing and trimming	AN	AN	AN	N/A
Mulching and fertilizing	N/A	N/A	N/A	N/A
Pruning - Trees and shrubs	AN	AN	AN	AN
Sweeping - Walkways	AN	AN	AN	AN
Trash - Empty - Barrels	AN	AN	AN	AN
Weeding - Flower beds and grassy areas	N/A	N/A	N/A	N/A
Weeding - Paved areas	N/A	AN	N/A	N/A

a. Frequency codes are: AN = As needed; D = Daily, # times; E = Every # days; N/A = Not applicable.

Natural Resources

Water Resources

The Massachusetts Division of Ecological Restoration monitored water levels in Namskaket Marsh from July through October, 2013 in order to assess if and when tidal flow through two culverts should be regulated. Insufficient information was generated to develop management guidance; additional data collection may occur.

The USGS has installed at least eight monitoring wells along the south side of the trail, in the vicinity of Namskaket Creek and marsh. These wells are used to monitor the movement of a plume of nitrogen through the groundwater beneath this

section of the trail (Weiskel 2011, Weiskel et al. 1996).

Rare Species

Although construction projects in Priority Habitat have been reviewed by NHESP, ongoing operation and maintenance activities have not.

Similarly, potential impacts to rare species have been assessed for construction of the 3.7 mile westward extension of the CCRT (NHESP File No. 10-280-11), but potential impacts of future operation and maintenance activities have not.

Invasive Species

There are no monitoring or management activities.

Vegetation

Edges of the paved multi-use path are mowed by Nickerson personnel as staffing and resources allow. The town of Harwich mows the path edges around the bike rotary, adjacent portions of the CCRT, and the Old Colony Rail Trail. They also empty trash barrels at the bike rotary.

The DCR does not apply fertilizer or other lawn chemicals to the CCRT.

Cultural Resources

Portions of the CCRT in Brewster and Orleans are within the Old Kings Highway Regional Historic District. Changes in the exterior of buildings, structures, fences; new construction; and demolition are subject to review by the Old King's Highway Historic District Committee.

Recreation Resources

There are no regular patrols to monitor recreation on the CCRT.

Hunting and trapping are specifically prohibited under DCR's Parks and Regulation Rules (302 CMR 12.11(3)).

Infrastructure

Buildings

Minor maintenance of the bike rental concession building is provided by the concessionaire. Ongoing maintenance and management of composting toilet buildings is provided by employees of the

municipalities in which the buildings are located (e.g., Eastham or Wellfleet).

Roads

There are no internal park roads to manage.

In Brewster, the Police Department and Department of Public Works are currently standardizing pavement markings and signs for rail trail crossings within that town.

Parking Areas

Parking areas are not plowed in the winter.

Trails

The multi-use path is not plowed in the winter.

Kiosks and Signs

There is no active management of DCR kiosks. This has led to their use as public bulletin boards for advertising local businesses and civic events.

9.9. RECOMMENDATIONS

Introduction

This section provides recommendations for the near- and long-term management of the CCRT. Applied Land Stewardship Zoning recommendations provide general guidance for management. Future activities and projects should be checked against these recommendations for consistency. Management recommendations are all high-priority, and should be addressed as soon as resources become available.

Applied Land Stewardship Zoning

The following Land Stewardship Zoning is recommended for the Cape Cod Rail Trail. Due to the linear nature of the CCRT and the scale of maps used in this RMP, there is no Land Stewardship Zoning map for this park.

Zone 1

No sections of the CCRT have been designated Zone 1.

Zone 2

Areas designated Zone 2 include:

- The CCRT, excluding existing and potential parking areas, has been designated Zone 2.

- Former railroad right of way in Wellfleet, from the Lecount Hollow Road, north to Route 6 for the possible northward extension of the CCRT.

Zone 3

Most areas designated Zone 3 are currently developed and in use. This includes:

- 0 Rail Trail Siding, off Route 134, Dennis; existing trailhead parking lot.
- 0 Bike Path, off Headwaters Drive, Harwich; existing parking lot.
- 0 South of Lecount Hollow Road, Wellfleet; existing trailhead parking lot.

Existing parking lots with the *potential* for expansion have also been designated Zone 3. This includes:

- 493 Depot Street, Harwich. This parcel contains an existing gravel lot. The entire parcel is designated Zone 3.
- 0 Long Pond Road, Brewster, south of Route 137. The entire parcel is designated Zone 3.
- 0 Main Street, Brewster. This is the location of the bike rental building. The building, existing lot, and undeveloped areas adjacent to the existing lot have been designated Zone 3.
- Nauset Road, Eastham. This includes a road shoulder, approximately 30-feet by 200-feet, for the possible expansion of an existing gravel lot.

Finally, the following areas may be appropriate for future development; they have also been designated Zone 3:

- 0 Long Pond Road, Brewster, north of Route 137; for the possible creation of a parking lot.
- 0 LeCount Hollow Road, Wellfleet, north of the existing Wellfleet trailhead; for the possible creation of a parking lot.
- 2516 State Highway, Route 6, Wellfleet. This is the northernmost piece of DCR-owned rail bed; for the possible creation of a parking lot if the CCRT is extended to Route 6.

None of the potential expansions of existing facilities or potential future developments, as indicated above, are proposed at this time. Full regulatory review, including public input, will occur if specific additional development is proposed.

Significant Feature Overlay

The following Significant Feature Overlay was developed:

- ***Multi-Use Path Significant Feature Overlay***. This overlay includes the existing multi-use path and adjacent vegetation within 10-feet of either side of that path. Areas within this overlay are managed for recreation purposes. In contrast, areas outside of this overlay are primarily managed for their cultural and natural resource values, in order to protect and promote a park aesthetic and visitor experience.

Management Recommendations

Fifteen priority management recommendations were developed for the Cape Cod Rail Trail. (Table 9.9.1) For a recommendation to be considered priority it must address one or more of the following criteria:

- Regulatory compliance or compliance with legal agreements.
- Threats to the health and safety of park visitors and employees.
- The imminent loss of a natural, cultural, or recreation resource.

Additional maintenance and management needs observed during the preparation of this RMP, but not meeting one or more of the above criteria, are not included in this plan.

All recommendations are of equal priority.

Table 9.9.1. Priority recommendations for the Cape Cod Rail Trail.

Recommendation	Implementation^a
Obtain data needed to regulate Namskaket Creek culverts in order to balance marsh management with prevention of damage to real and personal property. Develop management guidelines, submit for regulatory review, and implement.	C, O, P, R
Submit ongoing maintenance activities to NHESP for regulatory review under the Massachusetts Endangered Species Act; include proposed maintenance activities for the 3.7 mile Dennis-Yarmouth extension.	P, R
Assess all intrusive work proposed adjacent to or near the multi-use trail for potential impacts to archaeological resources, especially in undeveloped areas.	C, P
Re-establish and maintain bridle trail along the edge of the entire multi-use path to minimize equestrian's need to enter the path.	R
Investigate potential encroachment along the CCRT and resolve with abutters, if warranted.	L, R
Repaint HP spaces and associated aisles in the Dennis, Wellfleet, and Route 137 parking lots in order to meet current standards for van accessible spaces.	C, R, U
Paint pavement and post "No Parking" signs opposite accessible spaces in the Wellfleet trailhead parking lot.	C, R, U
Identify options for expanding authorized parking at existing lots, and the potential creation of new parking lots.	C, P, R
Inventory road crossing markings and signs; install or update to meet current safety standards.	C, E, P, O
Review sight lines at road crossings. If necessary, trim vegetation to ensure clear sight lines of approaching traffic from stop lines.	P, R
Implement recommended safety measures at the Eastham underpass and elsewhere along the trail.	C, E, R
Actively promote trail user etiquette and safety.	B, R, V
Following completion of the Dennis to Yarmouth extension, prepare a master plan for the entire CCRT.	C, P
Re-establish lapsed MOUs with abutters.	L, R
Work with the town of Brewster, and other municipalities, to increase safety at road crossings through improved pavement markings and signs on both the CCRT and roads.	P, R, V

- a. The following codes identify the party or parties responsible for implementing the recommendations: B = Bureau of Ranger Services; C = Contractor; E = Division of Engineering; F = Bureau of Forest Fire Control and Forestry; L = Legal Services; O = Other; P = Bureau of Planning, Design & Resource Protection; R = Regional and district staff; U = Universal Access Program; V = Volunteer or partner; and X = Office of External Affairs and Partnerships.

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